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STOUT, MICHAEL C				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/544,202

**Applicant(s)**

MIMNAGH-KELLEHER ET AL.

**Examiner**

MICHAEL C. STOUT

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11/25/2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This detailed action is in regards to United States Patent Application 10/544202 filed on August 2, 2005 and is a non-final action based on the merits of the application.

Prosecution has been re-opened in light of prior art found though an updated search.

### ***Specification***

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. **Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading.** If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.

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(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH  
OR DEVELOPMENT.

(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH  
AGREEMENT.

(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON  
A COMPACT DISC.

(f) BACKGROUND OF THE INVENTION.

(1) Field of the Invention.

(2) Description of Related Art including information disclosed under  
37 CFR 1.97 and 1.98.

(g) BRIEF SUMMARY OF THE INVENTION.

(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE  
DRAWING(S).

(i) DETAILED DESCRIPTION OF THE INVENTION.

(j) CLAIM OR CLAIMS (commencing on a separate sheet).

(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate  
sheet).

(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A  
"Sequence Listing" is required on paper if the application discloses  
a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a)  
and if the required "Sequence Listing" is not submitted as an  
electronic document on compact disc).

**The specification lacks a heading for the above mentioned sections of the specification.**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

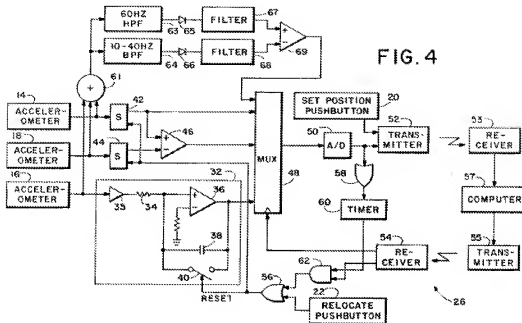
Claims 1, 2, 4-6 and 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Olson (US 4,787,051).

Regarding claim 1, Olson discloses a device for determining a value that is representative of accelerations in at least two mutually perpendicular directions, the device comprising a sensor system including at least two accelerometers with which acceleration in the mutually perpendicular directions (accelerometers 14, 16 and 18, see Figure 1, and column 4, lines 25-68 and column 9, lines 20-60) is convertible into electric signals while the value is

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determinable by signal processing means from an electric signal formed from the electric signals (the output signals from the accelerometers a summed by a summing circuit 61 which is then output to signal processing means, amplifier 69 and filters 63 and 67, see Figure 4 and column 8, lines 4-33), wherein prior to the signal processing means electric signals from the at least two accelerometers are addable together by an adding element to form the electric signal, wherein outputs of the at least two accelerometers are directly connected to the adding element to form the electric signal for processing by the signal processing means (as best shown in Figure 4 prior to the signal processing means the output from the accelerometers is added via summing element 61 which provides an output signal to the signal processing means, see column 8, lines 4-34).

Regarding claim 2, Olson further discloses the device as claimed in claim 1, wherein in the adding element connections conducting the electric signals are arranged in parallel (as best shown in Figure 4 the device comprises conductive paths from the accelerometers are arranged in parallel).



Regarding claim 4, Olson further discloses the device as claimed in claim 1, wherein the signal processing means comprise a signal amplifier (differential amplifier 69), a bandpass filter (BPF 64) and a processor (MUX 48 or computer 57, which process signals see column 8, lines 4-34).

Regarding claim 5, Olson discloses an ergometer for measuring a value that is representative of a physical effort of an individual (a handheld computer input device (mouse) which measures acceleration resulting from the movement of the mouse by the user), the ergometer the device comprising a sensor system including at least two accelerometers with which acceleration in the mutually perpendicular directions (accelerometers 14, 16 and 18, see Figure 1, and column 4, lines 25-68 and column 9, lines 20-60) is convertible into electric signals while the value is determinable by signal processing means from an

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electric signal formed from the electric signals (the output signals from the accelerometers a summed by a summing circuit 61 which is then output to signal processing means, amplifier 69 and filters 63 and 67, see Figure 4 and column 8, lines 4-33), wherein prior to the signal processing means electric signals from the at least two accelerometers are addable together by an adding element to form the electric signal, wherein outputs of the at least two accelerometers are directly connected to the adding element to form the electric signal for processing by the signal processing means (as best shown in Figure 4 prior to the signal processing means the output from the accelerometers is added via summing element 61 which provides an output signal to the signal processing means, see column 8, lines 4-34).

Regarding claim 6, Olson further discloses the ergometer as claimed in claim 5, wherein in the adding element connections conducting the electric signals are arranged in parallel (as best shown in Figure 4 the device comprises conductive paths from the accelerometers are arranged in parallel).

Regarding claim 12, Olson further discloses the ergometer as claimed in claim 5, wherein the signal processing means comprise a signal amplifier (differential amplifier 69), a bandpass filter (BPF 64) and a processor (MUX 48 or computer 57, which process signals see column 8, lines 4-34).

Regarding claim 13, Olson further discloses the device as claimed in claim 1, wherein the electric signals added by the adding element are output currents of the at least two accelerometers added to form a total current for processing by the signal processing means (the accelerometers output an analogue signals

which are added by a summing unit 61 to form a total signal, see Figure 4 and column 8, lines 5-33, which is then filtered amplified and then digitized for transmission to a computer).

Regarding claim 14, Olson further discloses the ergometer as claimed in claim 5, wherein the electric signals added by the adding element are output currents of the at least two accelerometers added to form a total current for processing by the signal processing means (the accelerometers output an analogue signals which are added by a summing unit 61 to form a total signal, see Figure 4 and column 8, lines 5-33, which is then filtered amplified and then digitized for transmission to a computer).

Regarding claim 15, Olson discloses a device for determining a value that is representative of accelerations in at least two mutually perpendicular directions, the device comprising: a sensor system including at least two accelerometers for providing output currents (accelerometers 14, 16 and 18, see Figure 1, and column 4, lines 25-68 and column 9, lines 20-60); an adder directly connected to the at least two accelerometers for directly receiving the output currents and forming a total current (as best shown in Figure 4 prior to the signal processing means the output from the accelerometers is added via summing element 61 which provides an output signal to the signal processing means, see column 8, lines 4-34, the accelerometers output an analogue signals which are added by a summing unit 61 to form a total signal, see Figure 4 and column 8, lines 5-33, which is then filtered amplified and then digitized for transmission to a computer); and a processor configured to receive the total current for processing

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(differential amplifier 69), a bandpass filter (BPF 64) and a processor (MUX 48 or computer 57, which process signals, see column 8, lines 4-34).

Claims 1, 5, 13, 14 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Rosati (US 4,453,141).

Regarding claims 1 and 5, Rosati discloses a device/ergometer for determining a value that is representative of accelerations in at least two mutually perpendicular directions, the device/ergometer comprising a sensor system including at least two accelerometers with which acceleration in the mutually perpendicular directions (accelerometers 32, 34, 36 positioned along the X-Y and Z axes, see column 3, lines 17-35 and Figure 2) is convertible into electric signals while the value is determinable by signal processing means from an electric signal formed from the electric signals (the accelerometers detected the frequency and magnitude of the vibrations, see column 2, lines 57-68, the outputs of the accelerometers are combined by the signal combiner 38 into a single analog signal, see column 3, lines 17-34), wherein prior to the signal processing means electric signals from the at least two accelerometers are addable together by an adding element to form the electric signal, wherein outputs of the at least two accelerometers are directly connected to the adding element to form the electric signal for processing by the signal processing means (as best shown in Figures 1 and 2 the accelerometer outputs are combined by 38 prior to the signal processing means comprising the amplifier 26).

Regarding claims 13 and 14, Rosati further discloses the device as claimed in claims 1 and 5 respectively, wherein the electric signals added by the adding element are output currents of the at least two accelerometers added to from a total current for processing by the signal processing means (the accelerometers detect the frequency and magnitude of the vibrations, each accelerometer outputting a signal having a current to a signal combiner 38, which forms a signal composite analog signal having a total current, see Figure 2, column 2, lines 43-67 and column 3, lines 17-34).

Regarding claim 15, Rosati discloses a device for determining a value that is representative of accelerations in at least two mutually perpendicular directions, the device comprising: a sensor system including at least two accelerometers for providing output currents (accelerometers 32, 34, 36 positioned along the X-Y and Z axes, see column 3, lines 17-35 and Figure 2); an adder directly connected to the at least two accelerometers for directly receiving the output currents and forming a total current (the accelerometers detect the frequency and magnitude of the vibrations, each accelerometer outputting a signal having a current to a signal combiner 38, which forms a signal composite analog signal having a total current, see Figure 2, column 2, lines 43-67 and column 3, lines 17-34); and a processor configured to receive the total current for processing (the amplifier 26, shifter 28 receive and process the total current signal, which is then fed to another circuit 10 which further processes the signal and provides an output 20, see Figure 1).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olson (US 4,787,051) in view of Berther et al. (US 5,983,722).

Olson discloses the device of claims 1 and 5 above, wherein a sensor system comprises at least to accelerometers.

Olson is silent regarding the specific structure of the accelerometer, wherein the sensor system comprises at least a sensor which comprises a flexible strip made of piezoelectric material.

Berther teaches a uniaxial accelerometer wherein the sensor comprises a flexible piezoelectric material (piezoelectric bender element, see Abstract).

Both Olson and Berther teach accelerometers. Thus, it would have been obvious to a person having ordinary skill in the art at the time of the invention to substitute the uniaxial accelerometer in the device taught by Olson for the

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accelerometer taught by Berther in order to achieve a sensor system comprising a flexible piezoelectric material to detect acceleration of an object.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Olson (US 4,787,051) in view of Armstrong (US 2002/0084986 A1).

Olson teaches the device of claim 5 as set forth above, wherein the computer controller (mouse) is electronically coupled to a computer via a transmitter for transferring data to the computer, see Figure 4 and column 8, lines 1-40.

Olson is silent regarding the device wherein the device comprises a coupling (serial connection) to which a computer can be connected, for transferring stored data from the ergometer to the computer.

Armstrong teaches a computer controller which is connected to the computer via a wired/wireless connection, see [0090], [0059] and Figures 1 and 4.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the device taught by Olson to include a wired connection as taught by Armstrong in order to connect the device to a computer by substituting one connection means for another.

Claims 7 and 9 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Olson (US 4,787,051).

Regarding claim 7, Olson teaches the ergometer as claimed in claim 5, wherein the ergometer comprises a database (interpreted as a data structure) in which the value is correlated to a nutritional value (Olson teaches a device wherein a mouse cursor movement is tracked by accelerometers positioned within the computer-human interface device (mouse) which output a signal having a value, the computer comprises a data structure which moves the cursor on a screen according to the detected value, distance of the mouse has moved correlates with the amount of work done (energy output/nutritional value) by an individual, see column 4, lines 25-52, column 6, lines 35-53).

Regarding claim 9, Olson further teaches the ergometer as claimed in claim 7, wherein the ergometer comprises a screen on which the instantaneous effort and/or average effort can be displayed in energy values of a certain period (computer display screen column 4, lines 25-52, which is capable of displaying instantaneous or average effort).

Claim 8 is rejected 35 U.S.C. 103(a) as obvious over Olson (US 4,787,051) in view of Lin (US 6,351,257 B1).

Regarding claim 8, Olson teaches the device of claim 7 as set forth above. Olson teaches the device comprising a computer 57 which utilizes a software program. Olson fails to explicitly disclose the computer comprising a memory.

Lin teaches an analogous device comprising a computer having memory 64 which stores computer programs and data, see column 2, lines 45-60, which is capable of storing data values over a period of time.

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It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the device taught by Olson to include memory as taught by Lin in order to store programs and data.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-15, in Appeal Brief filed 11/25/2008 have been considered but are moot in view of the new ground(s) of rejection.

### ***Contact Info***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL C. STOUT whose telephone number is (571)270-5045. The examiner can normally be reached on M-F 7:30-5:00 Alternate (Fridays).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on 571-272-4726. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. C. S./

Examiner, Art Unit 3736

/Max Hindenburg/

Supervisory Patent Examiner, Art Unit 3736

/Angela D Sykes/

Director, Technology Center 3762